REMARKS

Claims 1-30 are pending. Claims 1, 3-13, and 15-23 were rejected, claims 2 and 14 have been objected to, and claims 24-30 are newly added. No new matter has been added.

Applicant thanks the Examiner for the indication of allowable subject matter in claims 2 and 14. In response, Applicant has added new claim 24, which is based on original claims 1 and 2, and new claim 25, which is based on original claims 13 and 14. New claims 24 and 25 should therefore be allowable.

Turning to the prior art rejections, claims 1, 13, and 22 have been rejected under 35 USC 103(a) as being unpatentable over Shin et al. (US Patent Publ. No. 2004/0093178) in view of Lindoff et al. (U.S. Patent Publ. No. 2005/0075122). Claims 3 and 15 have been rejected under 35 USC 103(a) as being unpatentable over Shin et al. in view of Lindoff et al., and further in view of Okawa et al. (U.S. Patent Publ. No. 2003/0031195). Claims 4 and 16 have been rejected under 35 USC 103(a) as being unpatentable over Shin et al. in view of Lindoff et al., and further in view of Zhou et al. (U.S. Patent No. 6,370,130). Claims 5, 6, 17, and 18 have been rejected under 35 USC 103(a) as being unpatentable over Shin et al. in view of Lindoff et al., and further in view of Ha (U.S. Patent Publ. No. 2001/0019577). Claim 7 has been rejected under 35 USC 103(a) as being unpatentable over Shin et al. in view of Lindoff et al. in view of Ha, and further in view of Stott et al. (U.S. Patent No. 6,320,915). Claims 8, 19, and 23 have been rejected under 35 USC 103(a) as being unpatentable over Shin et al. in view of Lindoff et al., and further in view of Hayashi et al. (U.S. Patent Publ. No. 2004/0266469). Claims 9 and 20 have been rejected under 35 USC 103(a) as being unpatentable over Shin et al. in view of Lindoff et al. in view of Hayashi et al., and further in view of Okawa et al. Claims 10 and 21 have been rejected under 35 USC 103(a) as being unpatentable over Shin et al. in

14

view of Lindoff et al. in view of Hayashi et al., and further in view of Zhou et al.
Claims 11 and 12 have been rejected under 35 USC 103(a) as being unpatentable over
Shin et al. in view of Lindoff et al. in view of Hayashi et al., and further in view of Ha.

The original claims have been amended to recite not only scaling the estimated
interference power, but also scaling the total power estimate alternatively or in addition
to scaling the estimated interference power. Support for this amendment may be
found, for example, in equation 2, which includes the scaler "1/N."

The present invention measures the signal values which are received in response
to known pilot symbols, and performs the operations in Figs. 7 and 8 and a scaling of
the results of Fig. 7 and/or Fig. 8 to obtain compatible values which can then be
subtracted from each other irrespective of whether the scaling takes place before or
after the subtracting step.

Furthermore, the products of signal values multiplied by corresponding pilot
symbols are useful for obtaining the total power estimate, while the interference power
estimate is obtained by examining squared differences between values relating to
adjacent pilot symbols. This examination of differences can easily be performed with
good results, since it can be assumed that the channel variation is <u>constant across two
adjacent symbols</u>. Thus, by examining the squared differences between adjacent
symbols, the interference power estimate is provided as outlined in equation (10). Since
the channel variation (although the channel is not used when calculating the
interference power) can be assumed to be extremely small or equal to zero between <u>two
adjacent</u> symbols y, any difference between two adjacent symbols y (respectively
multiplied by the pilot symbol which belongs to the signal value y) has to stem from
any thermal noise or interference by other mobile phones. Thus, the examination of
squared differences between products relating to adjacent pilot symbols can be used for

15

estimating the noise energy so that a signal to interference ratio can be calculated as defined in the claims.

Shin discloses a method and apparatus for determining signal-to-interference ratio with reduced bias effect in a wireless communication system using a demodulator output such as a rake output or multi-user detection (MUD) receiver output. The demodulator output is fed into an SIR estimator to perform the SIR estimation based on estimated average signal power and estimated average effective interference power. The estimated average signal power is based on a minimum value function used for determining a minimum value between a median based average power value and a mean based average power value. Shin in [0004] states the following:

> A blind method in SIR measurement for a given received signal refers to the signal power and interference power (eventually SIR) obtained only from observation of samples of the received signal without any training sequence or any prior knowledge of the desired received signal and interference in the received signal.

The claimed invention completely different from Shin because the present invention is based on pilot symbols and, therefore, is not a blind technique. The claimed invention uses a training sequence having pilot symbols, while Shin uses only the received signal without any training sequence. Furthermore, [0062], line 5, states the following: "Thus, the calculation of the average signal power and interference power is based on a blind based bit decision." Contrary thereto, the present invention is based on the usage of received signal values and pilot symbols.

Thus, Shin does not disclose the processing step or estimating interference power step, as recited in claim 1. Both steps rely on pilot symbols as explicitly stated in amended claim 1, while Shin explicitly teaches not using pilot symbols.

Furthermore, Shin is completely silent regarding the use of squared differences between values relating to adjacent pilot symbols for calculating an interference power estimate.

Shin thus does not anticipate or render obvious the subject matter of the amended claims. On page 5 of the Office Action, the Examiner discusses Ha and refers Applicant to [0039]. However, this passage does not disclose anything regarding the use of pilot symbols for calculating an interference power estimate. Therefore, even a combination of Ha with Shin will not render obvious the subject matter of the present invention as defined by the amended claims. Further, the other applied references fail to make up for Shin's and Ha's deficiencies. Reconsideration and withdrawal of the prior art rejections is therefore respectfully requested.

In view of the above, Applicant believes the pending application is in condition for allowance.

Dated: December 8, 2006   Respectfully submitted,

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